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NOPE siRNA (m): sc-150034

BACKGROUND

NOPE (neighbor of punc E11) is a 1,250 amino acid protein that is highly similar to Punc (putative neuronal cell adhesion molecule). Both NOPE and Punc are transmembrane proteins that belong to the immunoglobulin (Ig) superfamily, which includes Deleted in Colorectal Cancer (DCC), a cell surface receptor involved in embryonic development. NOPE contains five fibronectin type-III (FnIII) repeats and four Ig-like C2-type repeats, which suggests a role for NOPE in embryonic differentiation and cell adhesion. Unlike the highly homologous extracellular domains of NOPE and Punc, their cytoplasmic domains are very diverged. NOPE is expressed during embryonic development of the notochord, skeletal muscle, and ventricular zone of the nervous system. NOPE can also be expressed in the hippocampus of the adult brain.

REFERENCES

- Salbaum, J.M. 1999. Genomic structure and chromosomal localization of the mouse gene Punc. *Mamm. Genome* 10: 107-111.
- Gruppiso, P.A., Boylan, J.M. and Vaslet, C.A. 2000. Identification of candidate growth-regulating genes that are overexpressed in late gestation fetal liver in the rat. *Biochim. Biophys. Acta* 1494: 242-247.
- Salbaum, J.M. and Kappen, C. 2000. Cloning and expression of nope, a new mouse gene of the immunoglobulin superfamily related to guidance receptors. *Genomics* 64: 15-23.
- Yang, W., Li, C. and Mansour, S.L. 2001. Impaired motor coordination in mice that lack punc. *Mol. Cell. Biol.* 21: 6031-6043.
- Online Mendelian Inheritance in Man, OMIM[™]. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 604184. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
- Toyoda, R., Nakamura, H. and Watanabe, Y. 2005. Identification of proto-genin, a novel immunoglobulin superfamily gene expressed during early chick embryogenesis. *Gene Expr. Patterns* 5: 778-785.

CHROMOSOMAL LOCATION

Genetic locus: Igdcc4 (mouse) mapping to 9 C.

PRODUCT

NOPE siRNA (m) is a pool of 3 target-specific 19-25 nt siRNAs designed to knock down gene expression. Each vial contains 3.3 nmol of lyophilized siRNA, sufficient for a 10 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see NOPE shRNA Plasmid (m): sc-150034-SH and NOPE shRNA (m) Lentiviral Particles: sc-150034-V as alternate gene silencing products.

For independent verification of NOPE (m) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-150034A, sc-150034B and sc-150034C.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.

STORAGE AND RESUSPENSION

Store lyophilized siRNA duplex at -20° C with desiccant. Stable for at least one year from the date of shipment. Once resuspended, store at -20° C, avoid contact with RNases and repeated freeze thaw cycles.

Resuspend lyophilized siRNA duplex in 330 μ l of the RNase-free water provided. Resuspension of the siRNA duplex in 330 μ l of RNase-free water makes a 10 μ M solution in a 10 μ M Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

APPLICATIONS

NOPE siRNA (m) is recommended for the inhibition of NOPE expression in mouse cells.

SUPPORT REAGENTS

For optimal siRNA transfection efficiency, Santa Cruz Biotechnology's siRNA Transfection Reagent: sc-29528 (0.3 ml), siRNA Transfection Medium: sc-36868 (20 ml) and siRNA Dilution Buffer: sc-29527 (1.5 ml) are recommended. Control siRNAs or Fluorescein Conjugated Control siRNAs are available as 10 μ M in 66 μ l. Each contain a scrambled sequence that will not lead to the specific degradation of any known cellular mRNA. Fluorescein Conjugated Control siRNAs include: sc-36869, sc-44239, sc-44240 and sc-44241. Control siRNAs include: sc-37007, sc-44230, sc-44231, sc-44232, sc-44233, sc-44234, sc-44235, sc-44236, sc-44237 and sc-44238.

GENE EXPRESSION MONITORING

NOPE (A-10): sc-398452 is recommended as a control antibody for monitoring of NOPE gene expression knockdown by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) or immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker[™] Molecular Weight Standards: sc-2035, UltraCruz[®] Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use m-IgG κ BP-FITC: sc-516140 or m-IgG κ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz[®] Mounting Medium: sc-24941 or UltraCruz[®] Hard-set Mounting Medium: sc-359850.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor NOPE gene expression knockdown using RT-PCR Primer: NOPE (m)-PR: sc-150034-PR (20 μ l). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

RESEARCH USE

For research use only, not for use in diagnostic procedures.